

# **Bedford 16156**

## **Bowman Brook Culvert Rehabilitation**

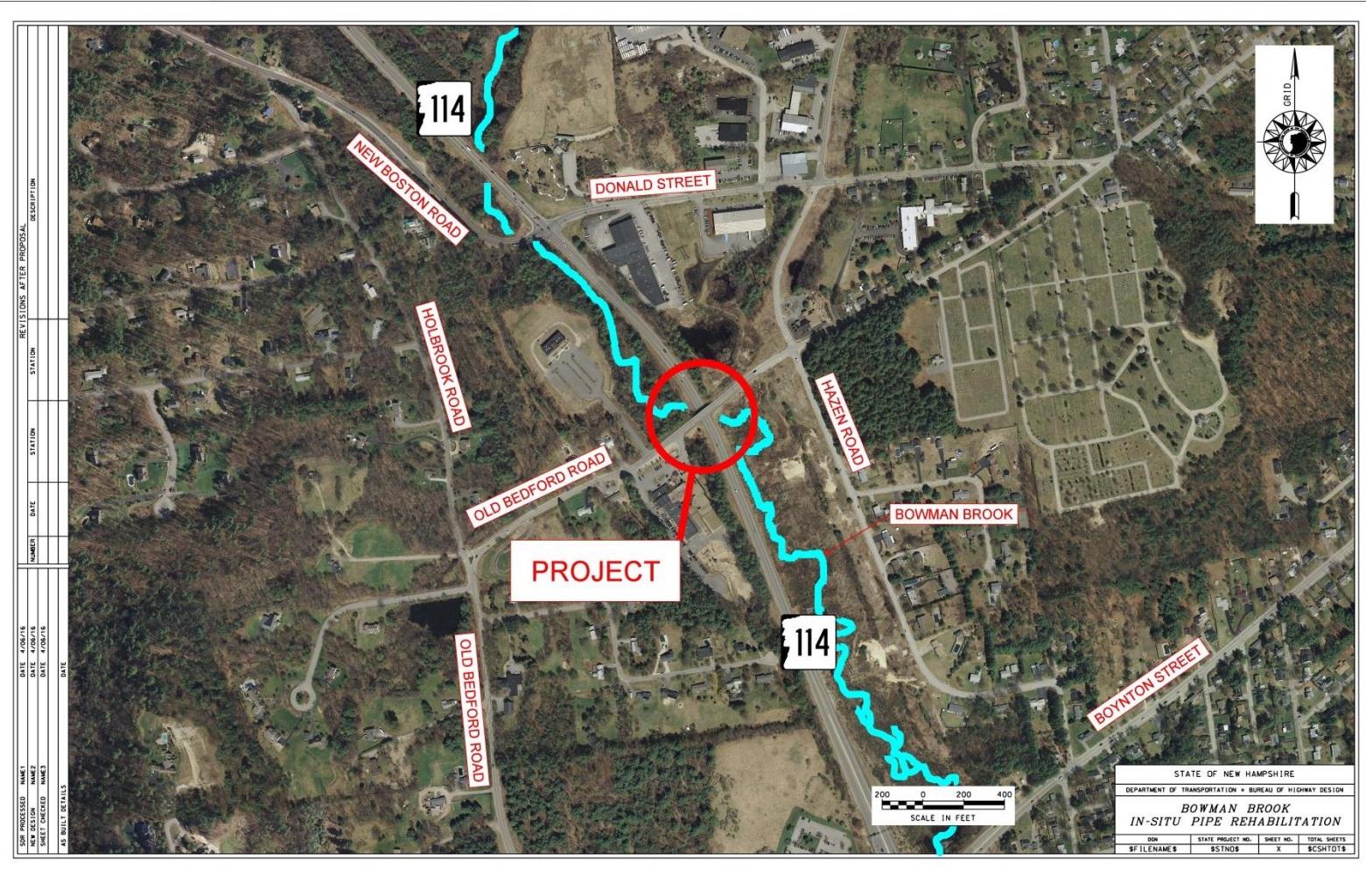
### **Public Informational Meeting**

**May 12, 2016**

# Agenda

- Welcome and Introductions
- Existing Conditions
- Improvement Alternatives
- Proposed Action
- Resource and Construction Impacts
- Construction Cost
- Schedule
- Questions and Comments

# Project Location



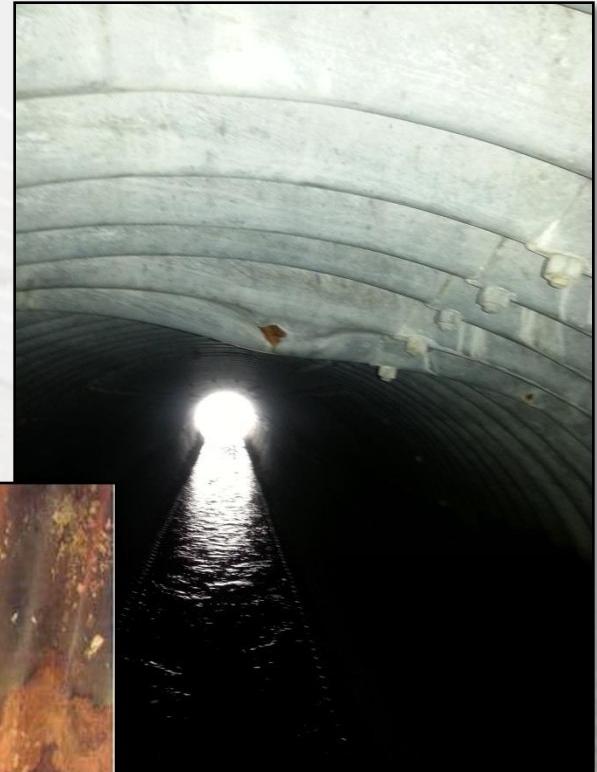
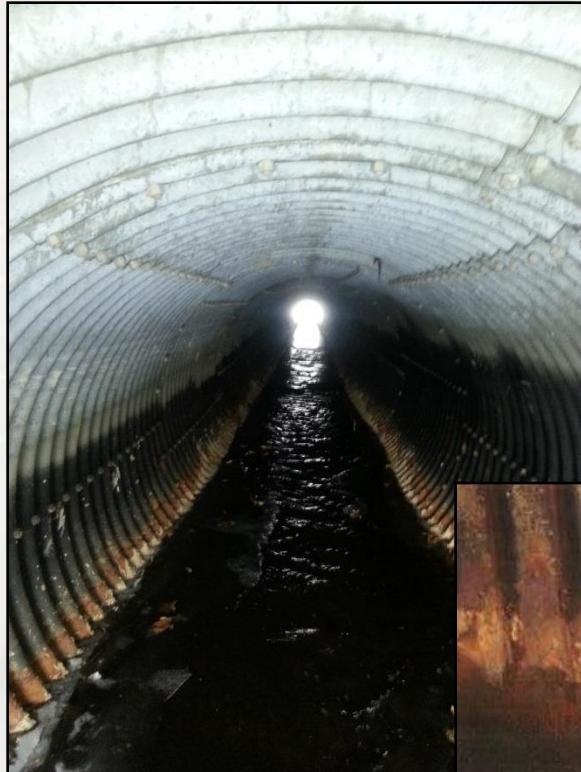
# Project Location



# Existing Conditions

- 87" x 83" Corrugated Metal Pipe (CMP)
  - Installed in 1964
  - Poor condition
- Installed Under NH Route 114 and the Old Bedford Road Bridge
  - Cut into Ledge, Within 5' of bridge substructure
- Natural Resources
  - Bowman Brook
- Right of Way
  - Existing Easement

# Existing Conditions



# Alternatives Analysis

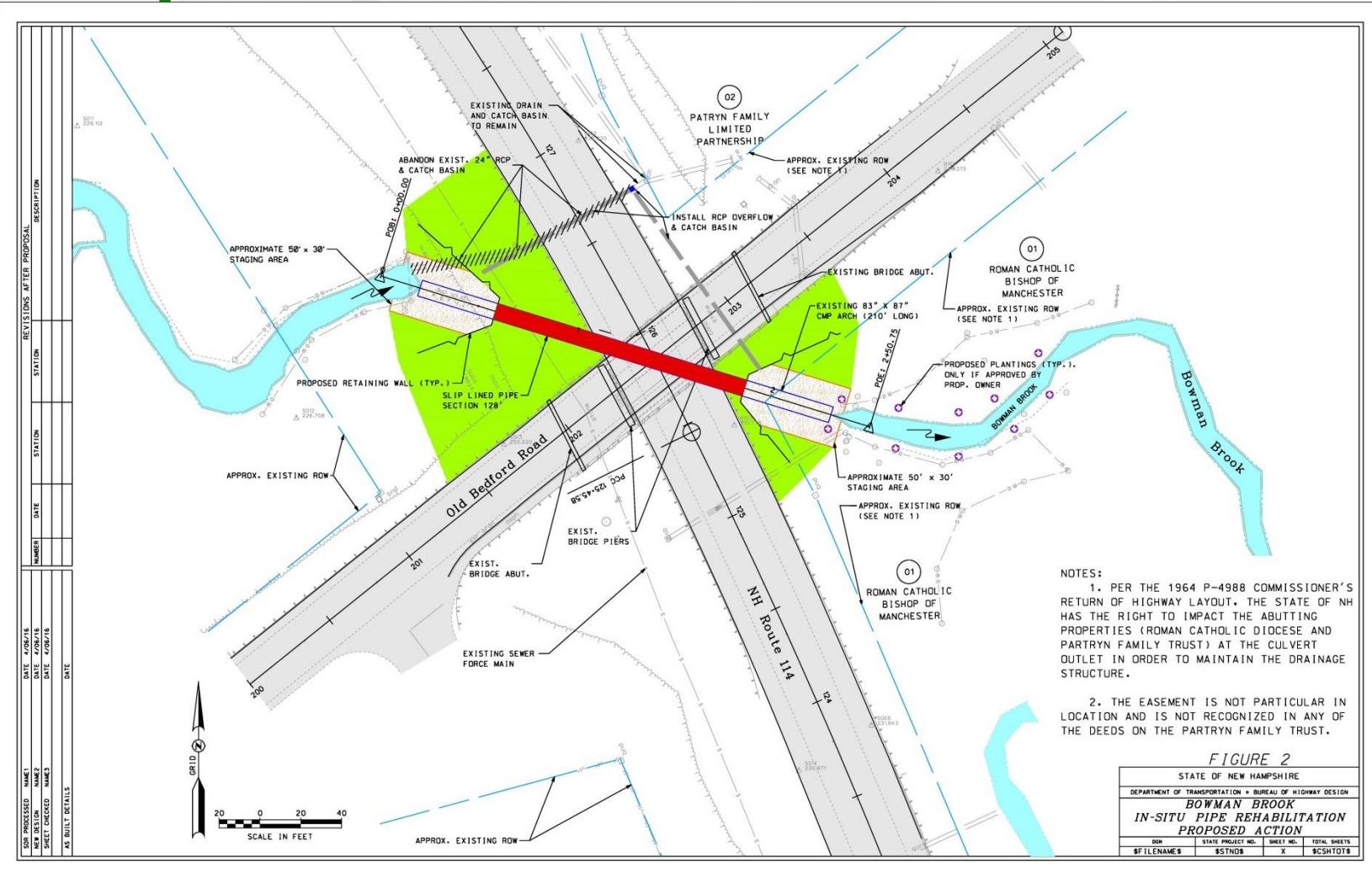
- Alternatives Considered
  - Alternative 1 – 23' x 7' Box Culvert (South)
  - Alternative 2 - No Build
- Alternatives Considered, but Dismissed
  - Alternative 3 – 10' x 7' Box Culvert
  - Alternative 4 - 23' x 7' Box Culvert (North)

# Proposed Action

- Proposed Action
  - In-Situ Rehabilitation
  - Shorten Existing Culvert by 80'
  - Construct Retaining Walls
  - Improve Inlet and Outlet Grading



# Proposed Action



NOTES:  
1. PER THE 1964 P-4988 COMMISSIONER'S RETURN OF HIGHWAY LAYOUT, THE STATE OF NH HAS THE RIGHT TO IMPACT THE ABUTTING PROPERTIES (ROMAN CATHOLIC DIOCESE AND PARTRYN FAMILY TRUST) AT THE CULVERT OUTLET IN ORDER TO MAINTAIN THE DRAINAGE STRUCTURE.

2. THE EASEMENT IS NOT PARTICULAR IN LOCATION AND IS NOT RECOGNIZED IN ANY OF THE DEEDS ON THE PARTRYN FAMILY TRUST.

FIGURE 2

STATE OF NEW HAMPSHIRE  
DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN  
**BOWMAN BROOK**  
**IN-SITU PIPE REHABILITATION**  
**PROPOSED ACTION**

# Proposed Action

- In-Situ Rehabilitation (Slip-Lining)
  - Maintain Existing Pipe
  - Increase Life Span
  - Restore Structural Integrity
  - Eliminate Need to Install Box Culvert Under NH Route 114 and Old Bedford Road Bridge
  - Shorten Construction Duration

# Natural Resource Impacts and Mitigation

- Natural Resource Impacts
  - Less than 3,000 sf of Temporary Wetland Impact
  - Less than 100 feet of Bank Impacts
  - Maintain Flood Elevations
- Mitigation
  - Restore 80 feet of Culvert to Natural Channel
  - Install Stormwater Overflow Pipe
  - Install Shrub Plantings
  - Eliminate Hanging Pipe Condition

# Constructability/Sequencing

- Minimize Traffic Impacts
- No Long Detours
  - Slip-Lining installation
    - Short Term Lane Closures
  - Overflow pipe installation
    - Alternating One-Way Traffic during low volume non-commuter hours
- Proposed overflow pipe will be used as temporary diversion of brook during slip-lining operations



# Preliminary Cost Estimate

- Construction Cost of Preferred Alternative
  - \$1,000,000
  - 80% Federal / 20% State
  - No Local Funds

# Preliminary Schedule

- Design
  - Complete NEPA Process – Summer 2016
  - Final Design – Fall/Winter 2016/2017
    - Permitting
      - Dredge and Fill
  - Advertise and Bid – September 2017
  - Construction – Summer 2018

# Thank You

Plans and Presentation Materials are  
Available on Internet

*www.nh.gov/dot/projects*  
*BEDFORD 16156*